

STATION #4 – PASSENGERS IN A BOAT

Materials: aluminum foil, pennies, water, and a large beaker or plastic shoebox

Directions:

1. Use the piece of aluminum foil to create a boat.
2. Measure the mass of your boat. Record the mass in the data table.
3. Fill your water container (a beaker or plastic shoebox) 2/3 full of water. Place your boat on the water to see if it will float. If the boat does not float, reshape the boat until you can get it to float.
4. Make a sketch of your boat.
5. Measure the mass of one penny. Record the mass in the data table.
6. Estimate the maximum number of pennies that your boat will hold.
7. Add pennies to your boat one at a time until the boat sinks (be sure not to place all pennies in one location). Record the number of pennies the boat held before sinking.
8. Remove the pennies and the boat. Dry them.
9. Multiply the mass of one penny by the maximum number of pennies that will allow the boat to remain floating. Record this number in the data table.

Cleanup: Dry all materials. Clean up any water spills.

STATION #6 – CAPILLARY ACTION

Materials: 3 beakers, wax paper, paper towels (not the brown school paper towels), scissors, water, oil, and rubbing alcohol

Directions:

1. Have students cut 6-9 strips of paper towels (they should be the same length and width).
2. Fill one beaker $\frac{1}{2}$ full with water, one $\frac{1}{2}$ full with oil, and one $\frac{1}{2}$ full with rubbing alcohol. Place a piece of wax paper on the table under the beakers.
3. Place 2-3 strips of paper towels in each beaker. The tip of the paper towel should barely touch the liquid in the beaker. Drape the strip over the side of the beaker.
4. Observe what happens with each set of paper towels for 5-10 minutes. Record your observations.

Cleanup: Clean up any spills. Throw away paper towel strips and wax paper. Clean and dry the beakers for the next group.